

### **REMARKS**

Claims 1, 9, and 18 have been amended, while no claims have been cancelled. Claims 1-4 and 6-20 therefore remain pending in the application. Applicant respectfully traverses the Office's rejections and, in view of the foregoing amendments and the following remarks, respectfully requests that the Office issue a Notice of Allowance. The amendments are supported by the specification and do not introduce new matter. Support for "capturing the state of the graphics processing unit for each of the captured events" can be found at least on page 6, lines 15-23 of the written description. Support for "setting the state of the graphics processing unit to the captured state associated with the selected event" can be found at least on page 7, lines 8-12 of the written description. Support for "modify the selected event" can be found at least on page 5, lines 10-11 of the written description. Support for "wherein each captured event represents a command submitted to the graphics processing unit" can be found at least on page 32, lines 4-5 of the written description. Support for "appeared immediately after a particular event was finished being drawn" can be found at least on page 39, lines 22-23 of the written description.

### **§ 112 SECOND PARAGRAPH REJECTIONS**

Claim 12 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office states that "[a]s per claim 12, line 1, it is unclear that claim [12] depends on [a] method claim or [a] computer readable medium claim (i.e. claim 1 is a method claim and claim 9 is a computer readable medium claim (i.e. one or more computer readable media

as recited in claim 9... ))". Applicant has amended claim 12 to reflect dependency from claim 9. During the afore-mentioned interview, the Office agreed that this amendment obviates the ground of the 35 U.S.C. § 112 second paragraph rejection of claim 12. Applicant thanks the Office for this indication.

### **§ 103 REJECTIONS**

Claims 1-4, 6-7,9-15 and 17-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Advani (US Pat. No. 5,862,381) in view of Mills (US Pat. No. 6,055,560).

Claims 8 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Advani (US Pat. No. 5,862,381) in view of Mills (US Pat. No. 6,055,560) and further in view of Zatz (US Pat. No. 6,864,893).

Applicant respectfully traverses the rejections. Nevertheless, Applicant has amended the independent claims in the manner discussed during the interview for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections.

### **THE CLAIMS**

**Claim 1** recites a method for controlling presentation of information to facilitate performance analysis for processing, the method comprising: (added language underlined):

- capturing a list of events directed at composing a video frame during processing of a set of commands by a graphics processing unit;
- capturing the state of the graphics processing unit for each of the captured events;
- displaying a listing of the captured events as well as information regarding the processing of the events;

- displaying a window including a video frame portion that displays a rendering of the video frame;
- receiving a user selection of one of the events of the listing;
- modifying the selected event;
- setting the state of the graphics processing unit to the captured state associated with the selected event;
- executing commands associated with the selected event in the graphics processing unit; and
- displaying in the video frame portion a visual representation of the frame resulting from the execution of the selected event.

In making out a rejection of this claim, the Office alleges *Advani* in view of *Mills* renders this claim obvious. Applicant respectfully disagrees. Nevertheless, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant has amended this claim.

Applicant respectfully submits that the *Advani* in view of *Mills* at least fail to teach or suggest:

*setting the state of the graphics processing unit to the captured state associated with the selected event*;

Claim 1 (emphasis added).

Consider one meaning of “the state of the graphics processing unit” as defined in the written description: “the state of the graphics processing unit refers to all of the registers, buffers, and/or other memory of the graphics processing unit in which variables or settings are stored.” page 6, lines 15-17.

*Advani* appears to discuss a “pop-up menu [that] presents the user with statistical data and push buttons which will jump the display to the strip for the processor with the largest average value and the strip for the processor with the smallest average value.” *Advani*, col. 9 lines 53-63. *Advani* also states that “the user can decide to only view the strip graphs starting at a time equal to T, rather

than from its origination point 0.” Advani, col. 10 lines 6-8. However, *Advani* in view of *Mills* does not teach or suggest “setting the state of the graphics processing unit” as recited in claim 1 because selecting which strip to jump to, or selecting the time at which strips should be viewed, is merely choosing how to process and display existing data. Processing and displaying existing data does not comprise “setting the state of a graphics processing unit”, as recited in Applicant’s claim.

Applicant further respectfully submits that *Advani* in view of *Mills* at least fails to teach or suggest:

*executing commands associated with the selected event* in the graphics processing unit

Claim 1 (emphasis added).

*Advani* appears to discuss that “upon user selection, our invention creates instantaneous displays, such as pie charts, bar graphs and the like.” Advani, col. 7 lines 60-62. However, *Advani* in view of *Mills* does not teach or suggest “executing commands associated with the selected event in the graphics processing unit” because *creating displays, charts, and graphs* is not “*executing commands associated with the selected event in the graphics processing unit*”, where the selected event is received from “a user selection of one of the events of the listing”, and where the list of events was captured “during processing of a set of commands by a graphics processing unit.” Therefore, creating displays, charts, and graphs may include executing many graphics commands, but does not teach or

suggest “executing commands associated with the selected event in the graphics processing unit” as recited in independent claim 1.

For at least these reasons, claim 1 is allowable.

**Claims 2-4 and 6-8** depend from claim 1 and, are allowable by virtue of this dependency. Claims 2-4 and 6-8 are also allowable for their own recited features, which the references of record have not been shown to disclose, teach, or suggest. Applicant therefore submits that each of claims 2-4 and 6-8 is allowable at least for its dependency upon claim 1.

**Claim 9** recites one or more computer readable media having one or more instructions that, when executed by one or more processors, causes the one or more processors to (added language underlined):

- capture a list of events directed at composing a video frame during processing of a set of commands by a graphics processing unit;
- capture the state of the graphics processing unit for each of the captured events;
- display a first window that identifies the list of events that have been captured during the drawing of the video frame;
- receive a user selection of one of the events in the list;
- modify the selected event;
- set the state of the a graphics processing unit to the captured stated associated with the selected event;
- execute commands associated with the selected event in the graphics processing unit; and
- display a second window including a video frame portion that shows how the frame appears at different points while being drawn.

In making out a rejection of this claim, the Office alleges *Advani* in view of *Mills* renders this claim obvious. Applicant respectfully disagrees. Nevertheless,

for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant has amended this claim.

Applicant respectfully submits that *Advani* in view of *Mills* at least fails to teach or suggest:

*Modify[ing] the selected event*

Claim 9 (emphasis added).

Applicant respectfully submits that *Advani* appears to discuss a visualization tool for creating graphic displays of trace data produced by a parallel computer program execution monitoring system. Advani, abstract. *Advani* also appears to discuss changing the way in which a user may view the graphic displays. Advani, col. 9 lines 53-63. However, *Advani* in view of *Mills* does not teach or suggest “modify[ing] the selected event” as recited in claim 9, because merely displaying historical data in a variety of ways is only changing the way in which data is displayed, not modifying the underlying data.

For at least this reason, claim 9 is allowable.

**Claims 10-17** depend from claim 9 and, are allowable by virtue of this dependency. Claims 10-17 are also allowable for their own recited features, which the references of record have not been shown to disclose, teach, or suggest. Applicant therefore submits that each of claims 10-17 is allowable at least for its dependency upon claim 9.

**Claim 18** recites a system comprising (added language underlined):

- a memory;
- a processor coupled to the memory; and

- a plurality of instructions stored in the memory and executed by the processor to present a user interface to enable a user to view information regarding a frame of video, the user interface comprising:
  - a list of events including events captured during composition of a video frame by a graphics processing unit, wherein each captured event represents a command submitted to the graphics processing unit;
  - an events window that identifies the events captured during the composition of the video frame;
  - a frame window that shows how the video frame appeared immediately after a particular event was finished being drawn.

In making out a rejection of this claim, the Office alleges *Advani* in view of *Mills* renders this claim obvious. Applicant respectfully disagrees. Nevertheless, for the sole purpose of expediting allowance and without conceding the propriety of the Office's rejections, Applicant has amended this claim.

Applicant respectfully submits that *Advani* in view of *Mills* at least fails to disclose or suggest:

a frame window that shows how the video frame appeared *immediately after a particular event was finished being drawn*

Claim 18 (emphasis added).

According to the Office: “Advani teaches to produce multiple windows and since data is available (collected and stored), it is just a matter to sort/called to produce desired display (co. 7, lines 65-67). Therefore Advani inherently teaches the second window that shows how the frame appears at different points while being drawn”. Office Action dated 1/16/2008, p. 6. Applicant respectfully disagrees, and instead submits that Advani in view of Mills does not teach or suggest “a frame window that shows how the video frame appeared immediately

after a particular event was finished being drawn”, as recited in claim 18. While Advani does appear to discuss displaying a number of graphs representing trace data, Advani does not discuss displaying partially drawn video frames.

For at least this reason, claim 18 is allowable.

**Claims 19 and 20** depend from claim 18 and, are allowable by virtue of this dependency. Claims 19 and 20 are also allowable for their own recited features, which the references of record have not been shown to disclose, teach, or suggest. Applicant therefore submits that each of claims 19 and 20 is allowable at least for its dependency upon claim 18.

#### **CONCLUSION**

For at least the foregoing reasons, claims 1-4 and 6-20 are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections and an early notice of allowance. If any issue remains unresolved that would prevent allowance of this case, Applicant respectfully requests the Office to contact the undersigned representative to resolve the issue.

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Representatives for Applicant

/David W. Foster/

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